

REMARKS/ARGUMENTS

In the Office Action, the Examiner allowed claims 23-29, 56-62, and 71-72 if rewritten in independent form including all of the limitations of the base claim and any intervening claims; objected to claim 69 because of an informality; rejected claims 1-5, 9, 30-33, 35-38, 42, 63-66, and 74 under 35 U.S.C. 102(e) as being anticipated by Durvaux et al. (US Pat. 6,449,243); rejected claims 6-8, 10-22, 34, 39-41, 43-55, 67-70, and 73 under 35 U.S.C. 103(a) as being unpatentable over Durvaux et al. in view of Needham et al. (US Pat. 5,764,699). The rejections are fully traversed below. Reconsideration of the application is respectfully requested based on the following remarks.

Claims 23, 26, 29, 56, 59, 62, 69, 71, and 72 have been amended to further clarify the subject matter regarded as the invention. Accordingly, claims 1-74 remain pending in this application.

ALLOWABLE SUBJECT MATTER

It is respectfully submitted that claims 23, 26, 29, 56, 59, 62, 71, and 72 are in condition for allowance since they have been rewritten in independent form including all of the limitations of the base claim and any intervening claims as pointed out by the Examiner. It is also respectfully submitted that claims 24, 25, 27, 28, 57, 58, 60, and 61 are allowable since they depend directly or indirectly from claims 23, 26, 56, or 59.

OBJECTIONS TO THE CLAIMS

Claim 69 has been amended to address the typographical error as pointed out by the Examiner. Therefore, it is respectfully submitted that the objection to claim 69 be withdrawn.

PATENTABILITY OF CLAIMS 1-22, 30-55, 63-70, 73-74

Independent claims 1, 35, 68, and 74 pertain to communications in an access network. Specifically, claim 1 requires among other things “detecting a change in at least one channel condition on the first channel” and “wherein said dynamically configuring is performed in response to the at least one channel condition change being detected on the first channel.” Claim 35 requires among other things “the Head End being further configured or designed to detect a

change in at least one channel condition on the first channel” and “wherein said re-configuring is performed in response to the at least one channel condition change being detected on the first channel.” Claim 68 requires among other things “computer code for detecting a change in at least one channel condition on the first channel” and “wherein said dynamically configuring is performed in response to the at least one channel condition change being detected on the first channel.” Lastly, claim 74 requires among other things “means for detecting a change in at least one channel condition on the first channel” and “wherein said dynamically configuring means is implemented in response to the at least one channel condition change being detected on the first channel.”

One of the many advantages of the present invention is being able to adapt to a change in channel condition. For example, when the Head End detects that the channel conditions on a particular channel have deteriorated, the Head End may automatically and dynamically reconfigure that particular channel to utilize a different modulation profile that is better suited for transmitting data in light of the newly detected channel conditions. Similarly, when the Head End detects that the channel conditions of a particular channel have improved, the Head End may reconfigure the channel to use a different modulation profile which takes advantage of the improved channel conditions, and allows for more rapid transmission of data across that channel. (Specification page 8, Lines 13-23) In other words, in order for the present invention to adapt (e.g., reconfigure a particular channel), a change in channel condition occurs where it can be detected.

In contrast, the cited art lacks the advantages of the present invention. This is because the cited art, taken alone or in combination, fail to teach or suggest either “detecting a change” or “configuring in response to the change being detected” as claimed. Although Durvaux et al. teaches adapting to the transmission quality of the return channel by setting suitable modulation methods for the network terminations of the communication network, Durvaux et al. merely checks for the quality measurement on the return channel and determines the type of modulation of the carrier based on the criteria such as “good”, “poor”, “mediocre”. Specifically, this is achieved by examining the signal-to-noise ratio using preset thresholds. (For example, see column 2, lines 59-67) However, Durvaux et al. does not disclose or suggest that a change has either occurred or been detected, much less setting suitable modulation methods in response to the change being detected. In other words, Durvaux et al. simply teaches adapting to the transmission quality a suitable modulation method regardless if a change in channel condition has occurred.

On the other hand, Needham et al. teaches an adaptive modulation in a radio communication system where the selected modulation scheme is based on the channel quality, e.g., the signal power to interference plus noise ratio and the calculated average block error rate. However, similar to Durvaux et al., Needham et al. fails to disclose or suggest either "detecting a change" or "configuring in response to the change being detected." Therefore, it is submitted that claims 1, 35, 68, and 74 are patentably distinct from the cited art.

The Examiner's rejections of the dependent claims are respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 2-22, 30-34, 36-55, 63-67, 69-70, and 73 each depend either directly or indirectly from independent claims 1, 35, or 68 and, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claims 1, 35, or 68. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art. Thus, it is respectfully requested that the Examiner withdraw the corresponding rejections of claims 1-22, 30-55, 63-70, and 73-74 under 35 U.S.C §§ 102(e) or 103(a).

SUMMARY

It is respectfully submitted that all pending claims are allowable and that this case is now in condition for allowance. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 50-0388 (Order No. CISCP172).

Respectfully submitted,
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